DOCUMENT RESUME

ED 367 663 TM 021 064

AUTHOR Hansen, Janet
TITLE The Correlation between the National Educational Development Test and the American College Testing Program.
PUB DATE [93]
NOTE 8p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Ability; *College Entrance Examinations; Comparative Analysis; *Correlation; Females; Higher Education; High Schools; High School Students; Parochial Schools; *Prediction; Predictive Measurement; Pretests Posttests; *Scores; Test Results; Urban Schools
IDENTIFIERS *ACT Assessment; *National Educational Development Tests; Preliminary Scholastic Aptitude Test; Scholastic Aptitude Test

ABSTRACT

Students who take the National Education Development Test (NEDT) receive predictions of their test score range for college entrance examinations including the American College Testing Program (ACT). This study was undertaken to investigate the correlation between scores on the NEDT and the ACT. Sixty female students were selected from the junior class of an urban, parochial high school with students from middle class communities. Predicted ACT scores from the NEDT were compared with ACT scores for the sample in a single group pretest-posttest design. Findings were tabulated in terms of means and standard deviations. There is a statistically significant correlation of 0.87 between scores on the NEDT and scores on the ACT. This information supports the assumption that the NEDT is a useful predictor of ACT scores. A table presents comparison findings. (Contains 10 references.) (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U S DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it
Minor changes have been made to improve reproduction quality
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

The Correlation Between The National Educational Development Test and The American College Testing Program

Janet Hansen

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
JANET HANSEN
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED 367 663

Every spring and fall 350,000 students across the country sit in classrooms taking the National Educational Development Test. A few weeks later the results arrive at their schools. When each student reviews his/her profile score report, he/she will notice the predicted college admissions test score range for the Preliminary Scholastic Aptitude Test (PSAT), the Scholastic Aptitude Test (SAT), and the ACT. These predictions are based on the composite score of the NEDT.

The test is advertised as a measurement of student performance in academic areas that are important in college as well as a predictor of college entrance test scores. With the exception of studies conducted by the authors of the NEDT, little research has been done to verify these predictions. However, the available research has shown that there is a relationship between scores on the NEDT and scores on other educational tests. Since the NEDT is used throughout the country by a diverse group of secondary schools, it is essential to know if this test is an accurate predictor of success on other tests, especially the ACT.

This study is particularly beneficial for school counselors who are helping students plan their future. It also can benefit students and their parents who are in the process of making important decisions about college and careers.

The National Educational Development Test (NEDT) was created in 1959 for students in grades seven through ten. The main reason for development of this test was to enable counselors to better assist students in formulating their plans for college. Many educators also expressed the need for a testing program early in a student's high school career.

The original format of the NEDT was based on the nine tests of the Iowa Tests of Educational Development (ITED), created in 1942, and used throughout that state. The test consists of five subtests similar to the ITED: English Usage, Mathematics Usage, Natural Sciences Reading, Social Studies Reading and Educational Ability. Each of these tests are timed, ranging from twenty to forty minutes.

In 1982, Science Research Associates (SRA) revised the NEDT. Information in the manuals was updated and all items that contained gender, racial or ethnic bias were deleted. After revisions were made, a sample of 12,000 ninth and tenth grade students from seventy schools in the United States participated in a pretest of the new NEDT. After further revisions, an equating study was conducted consisting of 4,000 students from twenty-three schools. In all, four separate equating studies were conducted. Later, 9162 ninth graders and 7217 tenth graders from 208 schools were tested in order to develop new norms. Based on the results of these studies, final revisions were

TM021064

BEST COPY AVAILABLE

made and the new NEDT was produced. The updated package of materials includes: Student Information Bulletin, Examiner's Manual, Student Handbooks, Interpretive Manual, Test Booklets, Answer Sheets, School Identification Sheets and Answer Sheet Return Envelope (Interpretive Manual,1984).

When results of the test are returned to the school, information including standard scores, national percentiles, college-bound percentiles, skill area ratios, and predicted ACT, PSAT, and SAT scores are included in the report. Certificates of Educational Development are provided for students whose composite score is at or above the 90th percentile (Interpretive Manual, 1984).

The test is administered twice a year by schools throughout the country. Mitchell (1985) stated that "it is designed to measure skills "critically important" for success in college." Literature promoting the NEDT (1990) also states that the test is "valuable to staff in long-range educational curriculum planning" and "shows students their strengths and weaknesses early enough for them to develop the needed skills."

Since its inception in 1959, the NEDT has had its critics. Reviewers tend to agree that the composite scores are reliable and show a correlation with the actual grades students earn in high school. Wesman (1965) stated that "the scores have a direct and obvious relation to the student's educational progress." Traxler (1965) reported a correlation between composite scores and grade point average after a study of 406 parochial school ninth graders was conducted. The correlation between the NEDT and the students' grades was .68. It, therefore, can be a satisfactory tool for use in guidance of students, including students who are college bound as well as students who would benefit from extra help.

Another area of agreement is that the battery of tests are too difficult. Hanna (1978) said that "if the tests are intended for use with all students, they are too hard." Doebler and Foreman (1979) also concluded that " although the suitability of the test for the general population may be questionable, it would seem that they could serve a very significant role for the college bound population." Clark (1965) reported that the average number correct for grade nine is 28 to 38 percent; for grade ten, 31 to 41 percent correct. Not only do reviewers find many questions difficult, there is the view that the speededness of the test also impacts on the scores.

When the NEDT was first introduced, one of the major flaws noted by researchers was its inability to predict success beyond high school. Bauernfeind (1984) stated that "the present NEDT publications show no correlations between NEDT scores and college grades 3 or 4 years later." A second negative was the lack of research studies. Hanna (1978) noted that the manuals placed emphasis on the use of composite scores for college planning, however no studies were completed to test the validity of this information. Wesman (1965) reported an absence of data showing correlations between the NEDT and other standardized tests. He did state that "the claim that the composite score is as good a predictor of college success as are standard scholastic aptitude measures is probably justified, despite the inadequacy of supporting documentation."

When the NEDT was revised in 1984, the tests were restructured and now are very similar to the four curriculum tests of the American College Testing Program (ACT). The authors of the NEDT also took on their critics by finally equating the composite scores of the NEDT to the ACT, PSAT, and SAT score scales. This enables students in ninth and tenth grade to have a predictor of how successful they will be when they take these tests.

Doebler and Foreman (1979) conducted a study on the use of the NEDT as a predictor of scores on the SAT. In their study, they acknowledged that little had been written on this topic, probably due to the fact that the subtests are geared mainly to students who are college-bound. They also noted that there was a correlation with ACT scores. The results of their study of sixty-nine students enrolled in a private college prep school, did show that there was a correlation of .76 with the SAT. They concluded that this test is beneficial for college-bound students, especially if taken early in the high school career.

Bauernfeind (1984) presented a review of the 1984 revision of the NEDT. He concluded through his study of the test that the composite scores did correlate highly with the ACT composite scores. He also noted that the scores on the four academic subtests are able to target students' strengths and weaknesses. His third conclusion was that the test contained material and measured skills that would be useful to college students.

The Interpretive Manual of the NEDT (1984) reports a high correlation between the ACT and the NEDT. A study was conducted by SRA to develop these score predictions. It was decided to use score ranges for predictions rather than one score. In 1984, data from 1200 students throughout the United States was collected. This group was balanced racially, ethnically, and geographically. ACT scores were obtained from tests given in 1982 and 1983. NEDT scores were obtained from tests given in 1980 through 1982. A random sample of students was assigned to either the validation sample (75%) or the cross validation sample (25%). The results of the validation sample showed the correlation range between the NEDT and the ACT was from .614 on the Social Studies Reading test to .791 on the Composite.

After completing this study an estimate of predicted scores was developed. By adding and subtracting the probable error of measurement to the predicted score, a range where the middle 50% of predictions would fall resulted. In analyzing this data, it was noted that the predictions of ACT scores correlated closer with the NEDT than did the predictions of scores for the PSAT and SAT. Since the content of the NEDT is very similar to that of the ACT this information was not unexpected (Interpretive Manual, 1984).

Next the researchers at SRA worked with the cross-validation sample. The NEDT scores were converted to predicted ACT, PSAT, and SAT scores. The results of this study showed that "tests that were highly correlated in the validation sample produced predicted scores that correlated highly with actual scores in the cross-validation sample" (Interpretive Manual, 1984). These results showed a correlation range between the two tests of .591 on Natural Sciences Reading to .838 on the Composite. As with the validation sample,

there was not as strong a correlation between the PSAT and the SAT.

As part of the Prediction Study (1984), the relationship between scores on the NEDT and scores on the ACT, PSAT, and SAT were analyzed. Scores were obtained from 1200 students who graduated in 1983. These NEDT and ACT scores were from tests given in 1980 through 1982. The results of this study proved that there was a high correlation between the NEDT and the ACT. The correlation range was from .622 on Social Studies Reading to .800 on the Composite. As shown in earlier studies, the PSAT and the SAT did not correlate as high as the ACT. Again the reason for this is the similarity of design and content of the NEDT and the ACT.

There is a scarcity of literature about the National Educational Development Test. However, after reviewing the available research and critiques about the NEDT and examining information about the ACT, one can see why the two are often compared and why there are high correlations between the two assessment programs. Both tests were founded in 1959. Geisinger (1984) reports that the original ACT test was based on the Iowa Tests of Educational Development (ITED) as was the NEDT. The four subject area tests of the ACT are the same as those of the NEDT. Both tests are considered educational development tests, measuring the ability of students to apply what they have learned. Geisinger (1984) mentions that there is evidence that the ACT does correlate with college performance. Reviewers have noted that the NEDT does correlate with grades earned in high school. One of the negatives pointed out by Bauernfeind (1985) is that both tests are somewhat speeded whereas the majority of high school and college work is not. The ACT does have a stronger appeal than the NEDT, testing over one million students a year (Geisinger, 1984) as opposed to the 350,000 students taking the NEDT.

One can conclude that the NEDT battery is a useful test for the college bound student. However, its purpose diminishes somewhat for those students not planning to attend college. There is the impression of a genuine lack of interest in this test as evidenced by the few articles written and fewer studies conducted about it. This is surprising since there seems to be a close relationship between this test and the ACT. The claim that the NEDT is an accurate predictor of college entrance test scores, especially the ACT, appears to be valid.

Therefore, the purpose of the study is to determine the correlation between the scores on the National Educational Development Test and the American College Testing Program.

Procedures

Population /Sample

The population in this study included 348 Junior female students from an urban, parochial high school. These students are from middle class communities.

Sixty students were selected at random from the Junior Class.

Data were collected through the examination of school records. The student's scores on the NEDT test included a prediction of scores for the ACT. These predictions were compared with the ACT scores of the sample. The single group pretest-posttest design was used.

Treatment of Data

The findings were tabulated in terms of means and standard deviations. The Pearson-Product Moment Correlation was employed at the .05 level of confidence to determine the statistical significance of the findings.

Results

The prediction stated on the NEDT for ACT scores was compared with the ACT scores. Using the Pearson-Product Moment Correlation, these scores were analyzed to determine if there was a statisically significant correlation between the two tests. Table I summarizes the analysis.

Table I

	Mean	S.D.	Correlation with NEDT
NEDT	21.3	3.27	
ACT	22.1	3.79	.87*

*Findings are significant at both the .05 level of confidence and the .01 level of confidence.

N = 60
According to the table of r's:
at .05 (confidence level), r = .2500
at .01 (confidence level), r = .3248

Table I indicates that there is a statiscally significant correlation between scores on the NEDT and scores on the ACT. The correlation of .87 represents a strong relationship between the two tests. This does support the findings in the review of literature that the NEDT is an accurate predictor of results on the ACT. Therefore, the data lead us to the rejection of the null hypothesis and the acceptance of the research hypothesis: There will be a correlation between scores on the NEDT and the ACT.

The results of the study are not surprising when the information related by test reviewers is considered. Since both tests are aimed at college-bound students and are similar in design, a significant correlation between them would be expected. What is notable is the high correlation , .87. In speaking with a representative of ACT in

Lincolnshire, Illinois, it was mentioned that the correlation between the ACT and the PLAN, a recently introduced preliminary ACT test offered to tenth grade students, was .91. Since the ACT and the PLAN have both been created by The American College Testing Program, a very high correlation was likely. However, although the NEDT was patterned after the ACT, it was created and revised by researchers who were not associated with the ACT. Because of this, a lower correlation between theses test (NEDT and ACT) would be probable. A .04 difference in correlation between the NEDT and the PLAN is miniscule. This information, coupled with the opinion of reviewers, gives further credence to the hypothesis that the NEDT is a useful predictor of ACT scores.

The only major study that has been conducted on the NEDT was done by the authors of that test. These studies were quite extensive and appear to be valid and reliable. The studies summarized in the Interpretive Manual found a correlation of .791 between the composite scores of the two tests. The results of this study definitely support these earlier findings.

Due to the scarcity of available studies completed on the NEDT further research is indicated. Many other areas could be explored such as the importance of the subtests as well as the relationship of the NEDT to other standardized tests. This research would be particularly beneficial for schools that aid students in their college decision-making. It also would help counselors decide which achievement test, of the many available in the United States, would best fit their needs and those of the population they serve.

Bibliography

Bauernfeind, Robert H. "National Educational Development Tests-1984 Revision." In Test Critiques, Volume 8, edited by Daniel J. Keyser and Richard C. Sweetland. Austin, Texas: PRO-ED, 1984, 521-525.

Clark, Willis W. "National Educational Development Tests." In The Sixth Mental Measurements Yearbook, edited by O.K. Buros. Lincoln, Nebraska: Gryphon Press, 1965, 68-69.

Doebler, L.K. and Foreman, S.T. "National Educational Development Tests as a Predictor of College Entrance Examination Board Scholastic Appitude Test Scores." Educational and Psychological Measurement, Volume 39, Winter, 1979, 909-911.

Gay, L.R. Educational Research, Competencies for Analysis and Application. New York: Macmillan Publishing Company, 1992.

Geisinger, Kurt. "The ACT Assessment." In Test Critiques, Volume 1, edited by Daniel J. Keyser and Richard C. Sweetland. Austin, Texas: PRO-ED, 1984, 11-13, 24-25.

Hanna, Gerald S. "National Educational Development Tests." In The Eighth Mental Measurements Yearbook, edited by O.K. Buros. Lincoln, Nebraska: Gryphon Press, 1978, 72-73.

Mitchell, James V., Editor, "National Educational Development Tests." In The Ninth Mental Measurements Yearbook, Lincoln, Nebraska: Buros Institute of Mental Measurements, 1985, 1035.

Science Research Associates. "NEDT Interpretive Manual." Monterey, California: CTB Macmillan/McGraw Hill, 1984, 3-4, 19-37.

Traxler, Arthur E. "National Educational Development Tests." In The Sixth Mental Measurements Yearbook, edited by O.K. Buros. LIncoln, Nebraska: Gryphon Press, 1965, 69-71.

Wesman, Alexander G. "National Educational Development Tests." In The Sixth Mental Measurements Yearbook, edited by O.K. Buros. Lincoln, Nebraska: Gryphon Press, 1965, 71-74.